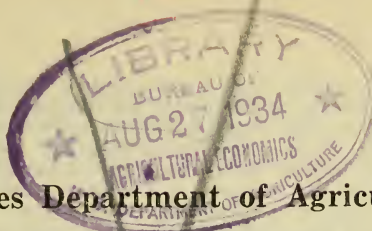


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Issued August 1934

United States Department of Agriculture

BUREAU OF AGRICULTURAL ECONOMICS

SERVICE AND REGULATORY ANNOUNCEMENTS NO. 145

UNITED STATES STANDARDS FOR GRADES OF CANNED GRAPEFRUIT¹

(Approved February 21, 1934)

DEPARTMENT OF AGRICULTURE

Washington, D.C.

By virtue of the authority vested in the Secretary of Agriculture by the provision in the act of Congress entitled "An act making appropriations for the Department of Agriculture for the fiscal year ending June 30, 1934, and for other purposes", 47 Stat. 1432, 1459, approved March 3, 1933, authorizing an inspection service for farm products, I, R. G. Tugwell, Acting Secretary of Agriculture, do prescribe and promulgate the following standards for grades of canned grapefruit, to be in force and effect on and after January 25, 1934, and as long as Congress shall provide the necessary authority therefor, unless amended or superseded by standards hereafter prescribed and promulgated under such authority.



In testimony whereof I have hereunto set my hand and caused the official seal of the Department of Agriculture to be affixed in the city of Washington, this 21st day of February 1934.

R. G. Tugwell

Acting Secretary of Agriculture.

DEFINITION

Canned grapefruit is the product prepared from the properly matured fruit of the grapefruit tree (*Citrus grandis*) after having been properly trimmed, peeled, and washed; membranes comprising the segment walls, cores, and seeds removed; the segments separated; with or without the addition of water and/or sugar; packed in hermetically sealed containers, and sterilized by heat.

GRADES OF CANNED GRAPEFRUIT

U.S. Grade A (fancy) canned grapefruit is composed of segments of which not less than 80 percent by weight are whole or practically whole; which are reasonably uniform in size; have a typical bright color, and possess a firm but not "fibrous" texture. The sirup surrounding the segments is reasonably clear, and tests not less than 18° Brix. The drained net weight of the fruit is not less than 60 percent of the capacity of the can. The product is practically free from defects; possesses a typical fine grapefruit flavor; and scores not less than 90 points when scored according to the scoring system outlined herein.

¹ These standards for grades are so framed as to exclude substances not mentioned and in each instance imply that the product is clean and sound.

U.S. Grade B (choice) canned grapefruit is composed of segments of which not less than 60 percent by weight are whole or practically whole; which have a typical bright color that may be slightly amber, and possess a firm but not "fibrous" texture. The sirup surrounding the segments is reasonably clear, and tests not less than 16° Brix. The drained net weight of the fruit is not less than 55 percent of the capacity of the can. The product is reasonably free from defects; possesses a typical grapefruit flavor; and scores not less than 75 points, and need not score more than 89 points when scored according to the scoring system outlined herein.

U.S. Broken (broken) canned grapefruit is composed of segments and/or portions of segments of which not less than 75 percent of the weight of drained fruit shall consist of whole and/or broken segments, but not over 15 percent by weight of the broken segments shall be smaller than one-half inch in two dimensions. The product has a typical bright color which may be slightly amber, and possesses a firm but not "fibrous" texture. The sirup surrounding the fruit is reasonably clear, and tests not less than 14° Brix. The drained net weight of the fruit shall not be less than 60 percent of the capacity of the can. The product is reasonably free from defects; possesses a typical grapefruit flavor; and scores not less than 60 points when scored according to the scoring system outlined herein; provided, that the factor of **UNIFORMITY OF SIZE** shall not be scored in grading broken grapefruit.

Off-Grade canned grapefruit is grapefruit which fails to meet the requirements of the foregoing grades, or, when any one of the grading factors, with the exception of **UNIFORMITY OF SIZE**, falls in the subdivision D.

Note.—Cognizance is taken of the fact that canned grapefruit is sometimes packed without sugar for certain classes of trade. Certificates of grade covering canned grapefruit so packed shall carry in connection with the statement of grade, the statement, "Water packed", and the Brix readings hereinbefore specified are waived.

EXPLANATION

"14° Brix" means that the sirup shall test 14° at 68° F. when tested with a Brix spindle or hydrometer, calibrated at that temperature.

"Practically whole" means that the conformation of the segment has been preserved to the extent that the segment is not less than 75 percent of its original size, but no piece shall be considered practically whole which weighs less than one-fourth ounce, or which has been excessively trimmed.

"Broken segments" are segments or portions of segments which fail to meet the description of "practically whole" segments, but are not less than one-third of the size of the segment of which the broken segment was originally a part. Portions of segments which are joined together by a "thread" of membrane, or "rag", are considered broken.

"Excessive trimming" is defined as that quantity of trimming which destroys the normal shape of the segment.

"Capacity of can" means weight of the volume of distilled water, at 68° F., the can will hold when completely filled.

PREREQUISITES TO GRADING

CONDITION OF CONTAINER

Containers shall be sound and clean. If the containers are metal, they shall be free from rust and serious dents, and the ends shall be flat or concave.

CONDITION OF PACKAGE AND LABEL

If cased, the canned grapefruit shall be packed in clean, neat, unbroken packages. If labeled, the labels on the container and package shall be clean, and shall be neatly and securely affixed, and shall comply in all respects with the requirements of the Federal Food and Drugs Act.

FILL OF CONTAINER

Cans of grapefruit shall be filled to the maximum capacity consistent with the maintenance of quality. Cans of grapefruit shall be considered as of standard fill if the head space, measured from the top of the product to the

underside of the lid, does not exceed 10 percent of the total inside height of the container, and if the packing medium is not in excess of the quantity necessary for proper processing without impairment of quality.

A certificate of grade covering canned grapefruit that does not meet the above requirements shall bear the legend,

“Below U.S. Standard ”

“Slack Fill ”

A certificate of grade covering canned grapefruit that does not meet the above requirement in that the packing medium is excessive, whether or not the head space is excessive, shall bear at least the 2-line legend.

“Below U.S. Standard—Slack Fill ”

“Contains Excess Added Liquid ”

DRAINED NET WEIGHT AND HEAD SPACE REQUIREMENTS

Drained net weights of grapefruit are determined by emptying the contents of the can upon a circular sieve of proper diameter containing 8 meshes to the inch (0.097-inch perforations), and allowing to drain for 2 minutes. The sieve diameters used are: 8 inches for No. 2 size cans or smaller, and 12 inches for No. 2½ size cans or larger.

The minimum drained net weight and the maximum head space allowable in the sizes commonly used in packing canned grapefruit are shown in the accompanying table:

Can size	Can dimensions		Maximum capacity in water at 68° F.	Minimum dry net weight		Maximum head space allowable (measured from top of double seam in sixteenths of an inch)
	Diameter	Height		Grade A and broken	Grade B	
	<i>Inches</i>	<i>Inches</i>	<i>Ounces</i>	<i>Ounces</i>	<i>Ounces</i>	
8-Z tall	2½ ¹⁶	3½ ¹⁶	8.65	5.21	4.77	7.6
No. 1 eastern.....	2½ ¹⁶	4	10.94	6.56	6.02	8.8
No. 2	3½ ¹⁶	4½ ¹⁶	20.55	12.33	11.30	9.7
No. 3	5½ ¹⁶	5½ ¹⁶	59.22	35.53	32.57	11.4

ASCERTAINING THE GRADE

The grade of canned grapefruit may be ascertained by considering, in addition to the foregoing requirements, the following factors: Uniformity of size, absence of defects, character of fruit, and flavor. The relative importance of each element has been expressed numerically on a scale of 100. The maximum number of credits that may be given for each factor is:

	<i>Points</i>
I. Uniformity of size.....	10
II. Absence of defects.....	25
III. Character of fruit.....	40
IV. Flavor	25

Total..... 100

Note.—When grading broken segments, the factor of UNIFORMITY OF SIZE shall be disregarded.

ASCERTAINING THE RATING FOR EACH FACTOR

The essential variations within each factor are so described that the value may be ascertained for each factor and expressed numerically. The numerical ranges within each factor are inclusive. For instance, the range 4 to 6 means 4, 5, and 6.

- I. Uniformity of Size.**—In the factor of uniformity of size, consideration is given to the uniformity of size of the segments, and their thickness.
- (A) To receive a rating within the highest group, 9 to 10 points, for this factor, the segments must be practically uniform in size.
 - (B) If the segments are reasonably uniform in size and thickness, a credit of 7 to 8 points may be allowed.
 - (C) If the segments are fairly uniform in size and thickness, a credit of 4 to 6 points may be allowed.
 - (D) If the segments are noticeably lacking in uniformity of size and thickness, a credit within the range of 0 to 3 points may be allowed.
- II. Absence of Defects.**—In the factor of absence of defects, the element of workmanship is considered. The presence of portions of membrane, irregularly cut segments, or pieces of core, peel, blemishes, or seed, are to be reflected in the scoring of this factor.
- (A) If the product is practically free from the defects mentioned, a credit of 23 to 25 points may be allowed.
 - (B) If the product is reasonably free from such defects, a credit of 20 to 22 points may be allowed.
 - (C) If the defects are prominent, a credit of 17 to 19 points may be allowed.
 - (D) If the defects are decidedly prominent, a credit within the range of 0 to 16 points may be allowed.
- III. Character of Fruit.**—In the factor of character of fruit, consideration is given to the texture of the fruit and whether it retains its original conformation without tendency to disintegrate. The condition of the flesh, whether tender or contrariwise, tends to be "fibrous" or tough, is to be noted in this connection. The maturity of the fruit has a direct bearing on the score accorded this factor.
- (A) To receive a rating within the highest group, 36 to 40 points, for this factor, the fruit must be mature and tender, yet firm to the extent that it may be handled readily without breaking.
 - (B) If the fruit is tender but slightly soft, a credit of 31 to 35 points may be given.
 - (C) If the fruit is noticeably lacking in character, or the pieces are lacking uniformity in tenderness and maturity, or fruit is flaccid or mushy, a credit of 26 to 30 points may be given.
 - (D) If the fruit is tough or "fibrous" or, contrariwise, is badly broken down or mushy, a score within the range of 0 to 25 points may be given.
- IV. Flavor.**—The determination of the rating for flavor shall be based upon the flavor of the fruit and the sirup surrounding the fruit, and shall be classified from the standpoint of palatability.
- (A) If the fruit possesses the fine, distinct flavor of properly-ripened grapefruit, a credit of 23 to 25 points may be allowed.
 - (B) If the fruit possesses a good flavor, a credit of 20 to 22 points may be given.
 - (C) If the fruit possesses a fairly good flavor, with but slight bitterness or slight terpine flavor, if any, a credit of 17 to 19 points may be allowed.
 - (D) If the product possesses an "off" flavor, or is distinctly disagreeable to the taste for any reason, a credit within the range of 0 to 16 points may be given.

Certificate No. _____ U. S. DEPARTMENT OF AGRICULTURE Applicant _____
 Lot or car No. _____ Bureau of Agricultural Economics Address _____
 Number of cases in lot _____ SCORE SHEET FOR CANNED GRAPEFRUIT Samples submitted by _____
 Can size _____

[illegible]

Remarks.....		
Graded by.....	Date.....	Fee \$.....
For sale by.....		

U. S. GOVERNMENT PRINTING OFFICE: 1934

